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THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: **Christopher Hsu, et al.**

Application No.: **10/629,044**

Examiner: **William A. Rivera**

Filed: **July 30, 2003**

Docket No.: **LEEE 2 00301**

For: **RETAINER RING FOR WIRE PACKAGE**

MAIL STOP APPEAL BRIEF – PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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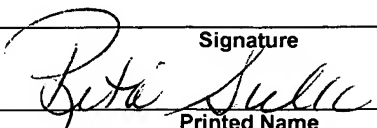
Respectfully submitted,
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March 28, 2006
Date

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants : Christopher Hsu, et al.
Title : RETAINER RING FOR
WIRE PACKAGE
Serial No. : 10/629,044
Filed : July 30, 2003
Confirmation No. : 7391
Last Office Action : December 19, 2005
Examiner : William A. Rivera
Gr. Art Unit : 3654
Attorney Docket No. : LEEE 2 00301

Cleveland, Ohio 44114

APPEAL BRIEF

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450
MAIL STOP APPEAL BRIEF - PATENTS

Dear Sir:

This is an appeal from the decision of the Examiner dated December 19, 2005 finally rejecting claims 1-42 in the above-identified patent application.

REAL PARTY IN INTEREST

Lincoln Global, Inc. is the real party in interest. On July 25, 2003, applicants Christopher Hsu, Elliott K. Stava and David J. Barton assigned all their rights, title and interest in the above-identified patent application to Lincoln Global, Inc., a Delaware corporation, having at that time a business address at 1200 Monterey Pass Road,

Monterey Park, California 91754. The assignment was recorded in the United States Patent and Trademark Office on July 30, 2003, reel/frame 14354/0679-0682.

RELATED APPEALS AND INTERFERENCES

Appellants, Appellants' legal representative and/or assignee are not aware of any pending appeals or interferences which will directly effect or be directly effected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF THE CLAIMS

This application contains claims 1-42. Claims 1-42 have been rejected. Accordingly, claims on appeal are claims 1-42.

STATUS OF AMENDMENTS

No amendments were filed after the final rejection mailed December 19, 2005.

SUMMARY OF CLAIMED SUBJECT MATTER

With reference to the specification and drawings, the claimed invention of this application relates to welding wire packaging used to control the unwinding or payout of a welding wire from the package in a way that the unwinding is controlled and tangling is minimized.

With reference to Figs. 1-4, package A is shown which includes a drum style container 10. Welding wire package A is loaded with welding wire W by looping the wire around a central core 20 to define a body of welding wire that is cylindrical in configuration having a top surface 40, an outer cylindrical surface 42 that rest against surface 16 of drum 10, an inner cylindrical surface 44 that is against or close to core surface 22. This wire coil configuration produces a central vertically extending bore 46 that is concentric with an axis A and which extends around core 20. Welding wire W is removed from the coil as it is needed in a welding operation. This removal pulls wire from the top of the welding wire coil at or near top surface 40. As can be appreciated, as the welding wire is removed from the coil, top surface 40 descends downwardly in drum 10. See page 7, lines 2-8.

Due to commonly used wire coiling techniques, the welding wire coil can have an upward spring in effect. In order to minimize tangles, this upward spring in effect must be controlled. In addition, as each convolution of wire is removed from the wire coil, it must be controlled such that it does not interfere with an adjacent convolution. Accordingly, a retainer ring is used to prevent tangles as wire W is pulled from the coil of wire. See, *page 7, lines 9-11*.

The invention of this application relates to a retainer ring R that is utilized to control the unwinding or payout of the welding wire from welding package A. Retainer ring R has a top surface 60 and a bottom surface 62. The retainer ring further includes an outer periphery 64 and an inner periphery 66. As is best shown in Figs. 2 and 3, the outer and inner peripheries are configured such that they are spaced from the drum and the inner coil, respectively, to allow the retainer ring to freely descend within the package as the wire is removed from the package. See *page 7, lines 11-17*.

Retainer ring R is cut from a flexible permanent magnet sheet. *Page 7, line 12*. See Fig. 3. The thickness of retainer ring R is preferably 1/16" and has a magnetic strength that is preferably 0.6 Megagauss Oersteds. *Page 7, lines 19-21 and Page 8, line 1*. The advantage of the retainer ring of the present invention is that ring R is flexible such that the welding wire can deform the retainer ring as it is pulled from the wire coil. This is best illustrated in Fig. 3 wherein welding wire W deflects ring R a distance "c." At the same time, the downward force of ring R on the top of the wire coil, which is illustrated by reference no. 70, is maintained and is generally uniform. This flexing and uniform force arrangement allows the retainer ring to control the unwinding of the wire from the wire coil without overstressing the wire as it is removed from the coil. *Page 8, lines 6-10*.

The flexing of retainer ring R is dependent on the upward forces of the wire coil and the positioning of wire W as it is removed from the coil. However, yet another advantage of the combination of a flexible ring and a magnetic ring is that the ring stays positioned on the top of the coil. In this respect, as wire W is removed from the coil, the wire engages inner edge 66 of retainer ring R thereby forcing the ring radially outwardly from axis a. Downward magnetic forces 70 resist this outward force thereby better maintaining the position of the retainer ring relative to the wire coil. The flexibility of the

retainer ring helps facilitate this position maintaining effect of the retainer ring relative to the wire coil. *Page 8, lines 13-16.* As a result of both the magnetic properties of ring R and the flexibility of ring R, the ring is capable of maintaining its engagement with the top of the coil and controlling the unwinding of the wire from the coil without the need for weights. This greatly reduces the deforming effect of the retainer ring on the welding wire by softly releasing the wire from the coil by way of the ring flexing based on the engagement with the existing welding wire W.

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 8-9, 12-16, 21-22 and 38 were rejected under 35 U.S.C. §102(b) as being anticipated by a Japanese patent to Noburo, No. 04133973 (hereinafter "the Noburo patent").

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by a Japanese patent to Kenji No. 04112169 (hereinafter "the Kenji patent").

Claims 27-28 and 31-32 were rejected under 35 U.S.C. §102(b) as being anticipated by Farahmand No. 6,406,419 (hereinafter "the Farahmand patent").

Claims 35-37 were rejected under 35 U.S.C. §102(b) as being anticipated by the Noburo patent or the Kenji patent.

Claims 2, 28, 39 and 40-42 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Noburo patent as applied to the claim rejection of claims 1, 8-9, 12-16, 21-22 and 38 above.

Claims 2-7, 10-11 and 17-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Kenji patent as applied above.

Claims 29 and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Farahmand patent as applied to claims 27-28 and 31-32 above.

Claims 23-26 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Kenji patent as applied to claims 1, 2 and 4 above, and further in view of Srail, et al. No. 5,942,961 (hereinafter "the Srail patent").

Claims 30 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Farahmand patent as applied to claims 27-28 and 31-32 above, and further in view of the Srail patent.

ARGUMENTS

Appellants respectfully submit that the cited references fail to anticipate and/or make obvious the claimed invention of this application. Accordingly, claims 1-42 patentably distinguish from the cited references and are in condition for allowance.

Prior Art Disclosure

The Noburo patent is a Japanese patent wherein the only English translation that has been provided is the English abstract. The previously described rejections of the claims of this application in view of this Japanese patent are therefore limited to the "facts contained in the abstract, not additional facts that may be contained in the full text document." *MPEP §706.02(II). Citing ex parte Jones, 62 U.S.P.Q. 2d 1206, 1208 (BD.Pat.App. & Intr. 2001) (unpublished)*. Further, reliance on this abstract without proper citation to the underlying document is inappropriate. *Id.* No citation has been made to the underlying document. Accordingly, the rejections of the claims in view of the Noburo patent are improper. *Id.* Even if the rejection is considered proper, the rejection must be limited to the English abstract and the drawings. However, as will be discussed in greater detail below, the Japanese patent specification which has not been translated could further show that the rejected claims are not anticipated and are not obvious which is, at least in part, the basis for this rejection being improper. *Id.*

The English abstract of the Noburo patent along with the drawings disclose a presser member 15 which controls the unwinding of the wire from the container. Presser member 15 controls the unwinding of the welding wire by "its self-weight." *Abstract, line 8*. The presser member includes upwardly opened portions configured to receive large permanent magnet members 15b. These magnets stick up above the top surface of the ring and are spaced about the top annular surface of the ring. In order to receive magnet members 15b, presser member 15a must have a thickness to produce the disclosed pockets. In order to support the weight of the magnets, member 15a must be rigid or else the pressing member would produce unequal pressure on the top of the wire coil. These stress points produced by the weight of the magnets would interrupt any possibility of the smooth flow of welding wire from the wire coil in that the

substantially point contact of the magnets would create low points while the space between the magnets would create high points in the annular ring structure wherein the ring would be deformed regardless of the position of the existing wire being removed from the wire coil. The ring of the Noburo patent is designed and configured to be rigid.

The Kenji patent is also a Japanese patent wherein the record only includes an English abstract and a drawing. As is stated above, the use of this patent without a translation of the Japanese specification is improper. *TMEP §706.02(II)*. If this Japanese patent is relied upon, the rejection must be limited to the written disclosure of the abstract and the drawing which disclose a ring structure that is again designed to be rigid. The Kenji patent discloses a pressing member 5 that has a truss-like configuration that by its very nature is rigid. The magnetic member 5b is reinforced by rib structures 5a and 5c that prevent flexing. The Kenji patent discloses a ring structure that is by its very nature configured to be rigid.

The Farahmand patent discloses a device used to improve the condition of one's eyes. This is achieved by mounting a magnetic device to a pair of eyeglasses such that the magnetic field is placed directly in front of the eyes for an "optimum therapeutic effect". *Abstract, lines 5-7*. The magnets are configured to be mountable on a pair of eyeglasses by means other than magnetic attraction, such that Farahmand specifically limits the size of these magnets to be within the range of 1.15" to about 2.0" for the outer diameter. The inner diameter is limited to a hole in the range of 0.3" to 0.7". *Column 4, lines 64-67; Column 5, lines 1-6*. The strength of the magnets is limited to the range of 400 gauss to 1,000 gauss. *Column 4, lines 56-58*. The magnetic properties of the magnet in the Farahmand patent is for therapeutic effects on the eye only. The magnets are not intended to be attracted to other objects such as the eyeglasses to secure the magnets to the eyeglasses. The only exception is that the magnetic forces can be used to hold two magnets together. *Column 4, lines 10-11*.

Analysis of Rejections

Claims 1, 8-9, 12-16, 21-22 and 38 were rejected under 35 U.S.C. §102(b) as being anticipated by the Noburo patent.

Claims 1, 8-9, 12-16, 21-22 and 38 are not anticipated by the Noburo patent. As the Board knows, for a publication to anticipate under §102, "the reference must teach every aspect of the claimed invention either explicitly or impliedly." *TMEP* 706.02(IV). If any feature is not taught directly, the feature must be "inherently present." *Id.* Further, the claims of this application must be given their broadest reasonable interpretation consistent with the specification. *TMEP* §2111. *In re Hyatt*, 211 F.3d 1367, 1372, 54 U.S.P.Q. 2d 1664, 1667 (Fed. Cir. 2000). Further, the broadest reasonable interpretation of the claims must also be consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999).

Claim 1 recites a welding wire package comprising a coil of wire positioned in the packaging having an upper surface wherein the package further includes a flexible permanent magnet retainer ring on the top of the wire coil. The flexible permanent retainer ring allows the welding wire to be paid out from the wire coil.

The Noburo patent fails to disclose a flexible ring let alone a flexible magnetic ring. As discussed above, the only document provided in the rejection of this application is an English abstract from the Noburo patent and a drawing. An English translation of the specification was not provided and, therefore, this rejection is improper.

The Noburo patent discloses a ring that must be rigid for the ring to function. With reference to the English abstract, the purpose of the Noburo patent is to "draw a wire smoothly from a pail pack without tangling and twining by providing a presser member with magnet members." *Noburo abstract, lines 1-2*. The magnet members are block magnets that help provide the weight necessary to push down on the wire coil. *Noburo abstract, lines 3-5*. Further, Noburo's ring portion is sufficiently thick to allow the large block magnets to be recessed therein. These large cylindrical magnets are spaced about the annular ring. In order to allow the wire to be "smoothly" removed from the pail, Noburo's ring must be rigid. In this respect, if the Noburo ring was flexible, the large magnets supported by the ring would create pressure points below these magnets that would prevent smooth removal of the welding wire. In fact, the pressure points would likely break the welding wire that is often less than .050 inch

thick. In greater detail, as the convolutions of wire are removed from the wire coil, the exiting wire passes around the package axis. This exiting wire would progress through a series of high and low resistance which would prevent smooth and even flow. The high resistance would be encountered as the wire passes under one of the large magnets and the low resistance would be encountered as the wire passes under portions of the ring between the magnets. This constantly changing resistance on the wire as the wire is being removed would not create the desired purpose of drawing a wire "smoothly from the pail pack." The ring must be rigid. The Noburo ring must be rigid to be stable. As is known in the art, as the wire is being removed it engages in the inner edge of the ring thereby producing a radially outward force that is constantly changing as the wire moves about the package axis. This creates motion in the package that must be controlled. Large spaced magnets positioned over a flexible ring would create an unstable condition wherein the magnets may move from their desired position.

Distortions in the welding wire have adverse effects on the welding process. The Noburo ring must be rigid to support the spaced block magnets or the series of high and low resistance described above would distort the welding wire as it is removed from the package.

The Examiner contends that the Noburo ring is a flexible ring since the ring is made of a synthetic resin. This statement is untrue and unsupported. Synthetic resin materials are not inherently flexible and there is nothing in the record that states otherwise. The English abstract and the drawing does not show flexibility. The abstract and the drawing together only support that the Noburo ring is and must be rigid to perform as desired. There is nothing in the disclosure of the Noburo patent that shows the Noburo ring to be flexible.

The Examiner has responded to Appellants' arguments concerning the lack of disclosure of flexibility with the contention that all materials are flexible. *Final Rejection dated December 19, 2005, page 6, lines 3-5.* During several telephone conferences with the Examiner, it is his position that all structures are flexible even if designed to be rigid since the structure will deform if subjected to a high impact load. This

interpretation goes against the understood meaning in the art of the word flexible and goes against the use of this word in the specification of this application.

Appellants respectfully submit that the Noburo patent fails to disclose the flexible retainer ring recited in claim 1.

The Noburo patent also fails to disclose a magnetic retainer ring. Claim 1 recites "a flexible permanent magnet retainer ring," not a flexible ring and a magnetic field. The recited ring is both flexible and magnetic. As is discussed above, the Noburo ring is a synthetic resin which by its very nature is not magnetizeable. Conversely, Noburo discloses a rigid non-magnetic ring and space block magnets positioned on the ring. Appellants respectfully submit that Noburo does not anticipate claim 1 under §102.

Claims 8-9, 12-16, 21-22 are dependent from independent claim 1 and are not anticipated by Noburo for at least these same reasons.

Claims 13-16, 21-22 further patentably distinguish Noburo by reciting the "flexible magnetic ring" having an outer periphery that generally matches the outer cylindrical surface of the wire stack. Again, Noburo fails to disclose a flexible ring that is magnetic. Noburo discloses a rigid non-magnetic ring that includes magnetic weights placed thereupon. These magnetic weights do not generally match the outer surface of the stack. Accordingly, claims 13-16 and 21-22 are not anticipated by Noburo.

Claims 9 and 12-14 further patentably distinguish the Noburo patent by reciting a cylindrical core in the bore of the welding wire. Noburo fails to disclose an inner core as is recited in claims 9 and 12-14. Accordingly, these claims are not anticipated.

Claim 38 is not anticipated by Noburo in that it recites a welding wire package comprising multiple layers of looped welding wire defined in a stack of wire to be paid out and a retainer ring having a "substantially flexible retainer ring body" that is positioned on the wire stack to be paid out. As is stated above, the Noburo patent does not disclose a flexible ring body. Further, the Noburo patent does not disclose a substantially flexible retainer ring body as is recited in claim 38. Nothing in the disclosure of the Noburo patent references flexibility let alone a substantially flexible ring body. Accordingly, claim 38 is not anticipated by the Noburo patent.

The only rejection of claims 8, 9, 12-16, 21, 22 and 38 is the 102 rejection based on the Noburo patent. As is stated above, the Noburo patent fails to anticipate these claims. Accordingly, these claims are deemed to be allowable.

Claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by the Kenji patent.

Claim 1 is not anticipated by the Kenji patent. In this respect, claim 1 recites a "flexible permanent magnet retainer ring." Like Noburo, the Kenji patent does not disclose a flexible permanent magnet retainer ring. As is discussed above, the Kenji patent is also a Japanese patent wherein the rejection of claim 1 is based solely on an English abstract and drawing which is improper. The Kenji patent discloses a frame-like ring structure wherein flexibility would go against this frame design. The Kenji patent makes no reference to flexibility and the frame-like structure of Kenji would in fact prevent the alleged flexibility as understood in the art and described in the specification of this application. More particularly, the Kenji patent includes a laminated ring design that is truss-like and includes a central cone structure 5c that would prevent the flexing of the Kenji ring. Essentially, the cone structure functions like a flange or rib that are used to produce rigid structures. The Kenji patent fails to make any reference to flexibility. Accordingly appellants respectfully submit that the Kenji patent cannot anticipate claim 1.

The Examiner contends that ring 5, which is the entire ring structure, is flexible. Since there is no disclosure in the Kenji patent on flexibility, this contention can only be based on the Examiner's position that all materials and all structures are flexible. Again, this position goes against the understood meaning of this word in the art and is unsupported in the record.

Appellants respectfully submit that the rejection of claim 1 in the above-referenced final rejection was limited to the 102 rejection in view of the Noburo patent and this 102 rejection in view of Kenji. There were no other rejections of independent claim 1. In view of the failure of the Noburo patent and the Kenji patent to anticipate claim 1, this claim is deemed to be in allowable form.

Claims 27-28 and 31-32 were rejected under 35 U.S.C. §102(b) as being anticipated by the Farahmand patent.

Claims 27, 28, 31 and 32 are not anticipated by the Farahmand patent.

Claim 27 is not anticipated by reciting a retainer ring that is configured for use in a drum of looped welding wire. As is known in the art, a drum of welding wire is a large container of wire designed to retain hundreds of pounds of welding wire. Claim 27 further recites a flat sheet of flexible permanent magnet material which has an outer periphery with a diameter large enough to substantially cover the looped welding wire. Appellants respectfully submit that the Farahmand patent does not disclose such a retainer ring. Conversely, the Farahmand patent discloses a ring-shaped device designed to cover one eye piece of a pair of eyeglasses. Farahmand fails to disclose all elements of claim 27 and, therefore, cannot anticipate under §102.

The welding wire of this application could not be wound to such a small diameter as is shown in Farahmand without destroying the wire. As is discussed above, the welding wire is wound into a wire container such that the wire maintains a substantially straight configuration when it is removed from the container. This is necessary to maximize the weldability of the welding wire. Accordingly, appellants respectfully submit that the Farahmand patent does not disclose all of the limitations of claim 27 and, therefore, does not anticipate this claim.

Appellants respectfully submit that the only rejection of claim 27 is under §102 in view of the Farahmand patent. Accordingly, claim 27 is deemed to be in allowable form.

Claim 28 is dependent from claim 27 and is not anticipated for at least the same reasons.

Claim 31 is not anticipated by the Farahmand patent by reciting a retainer ring for use in a drum of looped welding wire. The recited retainer ring is a flat sheet of permanent magnetic material that has an outer periphery large enough to substantially cover the looped welding wire. As is discussed above with respect to claim 27, the Farahmand patent does not disclose a retainer ring. Further, the Farahmand patent does not disclose a retainer ring having an outer diameter large enough to substantially cover the wire coil in a drum of welding wire. Accordingly, the Farahmand patent fails

to anticipate claim 31. Further, claim 31 was only rejected under §102 in view of the Farahmand patent. Accordingly, this claim is deemed to be in allowable form.

Claim 32 is dependent from claim 31 and is not anticipated by the Farahmand patent for the same reason. As with claim 31, the only rejection of claim 32 is the 102 rejection in view of the Farahmand patent. Accordingly, claim 32 is deemed to be in allowable form.

Claims 35-37 were rejected under 35 U.S.C. §102(b) as being anticipated by the Noburo patent or the Kenji patent.

Claims 35-37 are not anticipated by the Noburo patent and/or the Kenji patent. Claim 35 is a method claim reciting a method of controlling the payout of a welding wire. The method includes the step of applying a "flexible magnetic retainer ring" on the top of the wire stack. As is discussed above in greater detail, the Noburo patent and the Kenji patent fail to disclose a flexible magnetic retainer ring. Both the Noburo patent and the Kenji patent disclose rigid ring structures that are not flexible. Accordingly, these two patents do not anticipate claim 35. Appellants respectfully submit that the only basis for this rejection can be the Examiner's position that all materials and structures are flexible. Again, this goes against the meaning of the term flexibility in the art and goes against the use of this term in the specification. Further, this assumption is not in the record and goes against the disclosure of the cited references. Therefore, it is improper for this assumption to be used to reject the claims of this application. This rejection is under §102 and the Examiner has not met his requirement to show flexible permanent magnets used as is recited in this claim. Accordingly, claim 35 is not anticipated by the Kenji patent and/or the Noburo patent. Appellants respectfully submit that the only rejection of claim 35 is the 102 rejection in view of Noburo or Kenji. Accordingly, this claim is deemed to be in allowable form.

Claims 36 and 37 are dependent from claim 35 and are not anticipated by the Noburo patent and/or the Kenji patent for at least the same reasons. In addition, claim 36 is not anticipated by the Kenji patent and/or the Noburo patent by reciting a retainer ring that is a flexible permanent magnet retainer ring made from ferrite particles in a non-magnetic binder. The Noburo patent and the Kenji patent fail to disclose a flexible

permanent magnetic ring and fail to disclose a magnetic ring made from ferrous particles in a non-magnetic binder. Appellants respectfully submit that claims 37 and 38 are not anticipated by the Noburo patent and/or the Kenji patent. Further, the rejection of these claims under §102 in view of the Kenji patent and the Noburo patent are the only rejections of these claims. Accordingly, these claims are deemed to be in allowable form.

Claims 2, 28, 39 and 40-42 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Noburo patent as applied to the claim rejection of claims 1, 8-9, 12-16, 21-22 and 38 above.

Claims 2, 28 and 39-42 are not made obvious by the Noburo patent.

Claim 2 patentably distinguishes from the Noburo patent by reciting a "flexible permanent magnet retainer ring." As is stated above, the Noburo patent fails to disclose a magnetic ring. Conversely, the Noburo patent discloses a synthetic resin ring which is not magnetic. The Noburo ring includes large and heavy magnetic blocks resting on the non-magnetic ring. Further, the ring in Noburo is not flexible wherein a flexible ring would make Noburo's ring fail to function as intended. In this respect, the Noburo ring is designed to be a presser ring configured to control the unwinding of the welding wire by its own weight. *Abstract, paragraph 2, lines 4 and 5.* If the Noburo ring was flexible, the large magnetic weights would create pressure points thereby preventing the smooth unwinding of the wire from the wire coil. If flexible, the exiting wire would be subjected to intermittent frictional loads as it passes under and between the block magnets. This condition would not produce the desired smooth payout of the welding wire from the wire coil. Accordingly, the Noburo patent teaches away from the use of a flexible retainer ring. The Noburo patent does not make obvious a flexible retainer ring. Accordingly, the Noburo patent fails to make obvious claim 2.

Claim 2 further patentably distinguishes from the Noburo patent by reciting a flexible magnetic ring having a thickness in the general range of 0.10 - 0.01". As is stated above, the Noburo patent fails to disclose a retainer ring that is a flexible permanent magnet. The Noburo patent discloses a non-magnetic ring having large weighted magnetic structures supported thereon. Further, the Noburo patent fails to

disclose or make obvious a ring having the thickness in the general range of 1/10" to 1/100". It teaches away from the use of such a thin ring structure. In this respect, the ring structure as is recited in claim 2 would not be capable of supporting the large magnetic weights disclosed in the Noburo patent without a significant and negative impact on the unwinding of the wire from the wire coil. Accordingly, Appellants respectfully submit that claim 2 patentably distinguishes from the Noburo patent.

Claims 28 and 39 are also not made obvious by the Noburo patent for substantially the same reasons as claim 2. As with claim 2, claims 28 and 39 are dependent from an independent claim that is deemed to be in allowable form and which recite a ring structure not found in the Noburo patent. Further, claims 28 and 39 recite the thin ring structure identified in claim 2 wherein the Noburo patent teaches away from this thin ring structure and, therefore, does not make obvious these claims.

Claim 40 patentably distinguishes from the Noburo patent by reciting a flexible retainer ring on the top of the wire coil. As is discussed in greater detail above, the Noburo patent fails to disclose a flexible retainer ring. Further, the Noburo patent fails to make obvious a flexible retainer ring in that a flexible ring structure would prevent the Noburo ring from working as intended in that the large magnetic weights would have an adverse effect on a flexible ring structure. Further, claim 40 patentably distinguishes from the Noburo patent by reciting a flexible ring having a thickness in the range of 0.10 - 0.01". The Noburo patent fails to disclose or make obvious this substantially thin ring structure. In fact, it teaches away from the thin flexible ring structure recited in claim 40. Claim 40 further patentably distinguishes from the Noburo patent by reciting the flexible ring being a permanent magnet sheet. The Noburo patent discloses large cylindrical magnetic weights supported by a non-magnetic and rigid ring structure. The Noburo patent fails to disclose or make obvious the recited flexible retainer ring that is a permanent magnet sheet. Again, the weighted magnet structure of the Noburo patent teaches away from the thin flexible magnetic sheet recited in this claim. Appellants respectfully submit that the rejection of claim 40 under §103 in view of the Noburo patent is the only rejection of this claim. Accordingly, appellants respectfully submit that claim 40 patentably distinguishes from the cited references and is in allowable form.

Claim 41 is dependent from claim 38 for at least the same reasons. Further, claim 41 is not made obvious by the Noburo patent in that it recites a retainer ring having a substantially flexible retainer ring body that is positioned on the top of the wire coil. Again, the Noburo patent fails to disclose or make obvious the recited substantially flexible retainer ring. This substantially flexible retainer ring structure would make the Noburo ring fail to function as intended. Therefore, the Noburo patent cannot make obvious the recited substantially flexible ring. Claim 41 further patentably distinguishes from the Noburo patent by reciting the flexible ring body having a thickness in the range of 0.10 - 0.01" and is rubber. The Noburo patent fails to disclose or make obvious this substantially flexible ring let alone a thin and rubber ring structure. This rejection of claim 41 is the only rejection of this claim in the final rejection. Accordingly, appellants respectfully submit that claim 41 is deemed to be in allowable form.

Claim 42 patentably distinguishes from the Noburo patent by reciting a flexible retainer ring used to control the unwinding of the welding wire from the welding wire package. The Noburo patent fails to disclose or make obvious the recited flexible ring. Claim 42 further patentably distinguishes from the Noburo patent by reciting the flexible ring having a thickness in the range of 0.10 - 0.01" and is rubber. The Noburo patent teaches away from this ring structure. Claim 42 further patentably distinguishes from the Noburo patent by reciting the flexible ring being a permanent magnet sheet comprised of ferrite particles and a non-magnetic binder. Again, the Noburo patent discloses a non-magnetic ring structure that is rigid and includes large weighted magnets placed thereon. The Noburo patent fails to disclose or make obvious this thin and magnetic ring structure that is a permanent magnetic sheet. Appellants respectfully submit that this rejection is the only rejection of claim 42 and, therefore, this claim is deemed to be in allowable form.

Claims 2-7, 10-11 and 17-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Kenji patent as applied above.

Claims 2-7, 10, 11 and 17-20 patentably distinguish from the Kenji patent and are also allowable. The Examiner acknowledges that the Kenji patent fails to disclose

the recited thickness in these claims. However, appellants respectfully submit that the Kenji patent also fails to make obvious the recited ring structure. As an initial matter, claims 2-7, 10-11 and 17-20 are dependent from independent claim 1 and patentably distinguish from the cited references for at least the same reasons. In addition, appellants disagree with the contention that the recited dimension in these claims would be found by mere experimentation. In fact, as is discussed above, the cited references teach away from these recited dimensions. In this respect, claim 2 recites a "flexible permanent magnetic retainer ring" that is used to control the unwinding of the wire from the coil. The Kenji patent fails to disclose such a flexible magnetic ring. As with the rejection above, the rejection of these claims is solely based on an English abstract and drawing for the Kenji patent. A translation of the specification was not provided and, therefore, this rejection is improper. Further, the reinforced ring structure of the Kenji patent teaches away from the flexible ring recited in these claims.

In addition, the Kenji patent fails to disclose or make obvious the recited thin ring structure of claims 2, 3 and 11. Kenji also fails to disclose or make obvious the recited ring structure in claims 3, 4 and 10 which has a magnetic strength that is less than 1.0 Megagauss Oersteds. There is no teaching in the cited reference on magnetic strength. Yet even further, the Kenji patent fails to disclose or make obvious a ring structure which includes an inner circular edge having a diameter greater than the diameter of the wire coil as is recited in claims 5-7. The Kenji patent teaches a ring structure wherein the inner edge is the same diameter of the inner edge of the wire coil. The Kenji patent also fails to disclose or make obvious the recited inner core of claims 10 and 11. Accordingly, appellants respectfully submit that claims 2-7, 10-11 and 17-20.

Claims 29 and 33 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Farahmand patent as applied to claims 27-28 and 31-32 above.

Claims 29 and 33 are not made obvious by the Farahmand patent. As an initial matter, it is improper to reject the claims of this application under §103 in view of the Farahmand patent. The disclosure of a magnet used for therapeutic reasons is non-

analogous art. The magnetic field in the Farahmand patent is used for therapeutic reasons for one's eyes. This magnetic field is not used to attract the Farahmand magnet to another object, the magnet is not meant to secure the Farahmand patent to another object nor is it intended to control the flow of another object. The magnets in the Farahmand patent are only intended for their therapeutic effect on one's eye. The Farahmand patent does disclose that two magnets can be magnetically attached together to increase the therapeutic effect. That is the extent of the use of magnets for anything other than therapeutic effects on the eye. It is improper to reject the retainer ring structure of this application in view of the Farahmand patent under §103.

Even if the Farahmand patent is considered analogous, claim 29 patentably distinguishes from the Farahmand patent by reciting a flexible permanent magnet material used to control the unwinding of a welding wire in a drum of looped welding wire. The flexible permanent magnet retainer ring has an outer periphery diameter that is large enough to substantially cover the looped welding wire in the wire drum. As is discussed above, wire drums are designed to hold hundreds of pounds of welding wire. Further, the welding wire cannot be wound such that the convolutions are too small in diameter or the welding wire would be damaged. As a result, the recited retainer ring is not made obvious by the Farahmand patent.

Similarly, claim 33 patentably distinguishes from the Farahmand patent by reciting a retainer ring for use in a drum of looped welding wire wherein the retainer ring is made from a flat sheet of permanent magnet material with an outer periphery large enough to substantially cover the coil of wire. The Farahmand patent fails to disclose or make obvious such a ring structure.

Claims 23-26 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Kenji patent as applied to claims 1, 2 and 4 above, and further in view of the Srail patent.

Claims 23-26 patentably distinguish from Kenji in view of the Srail patent. As an initial matter, claims 23-26 are dependent from claim 1 and patentably distinguish from the cited references for at least the same reasons. Further, as is stated above, the Kenji patent fails to disclose or make obvious the recited flexible magnetic retainer by teaching a ring that has a laminated and rigid frame structure. The inner core structure

of the Kenji ring would prevent the annular ring portion of the Kenji ring from being flexible. The Kenji patent discloses a structure that is by its very nature rigid. The Srail patent fails to overcome the shortcoming of Kenji. As an initial matter, there is no motivation to combine the Kenji patent and the Srail patent. While the Srail patent discloses a process and apparatus for producing a magnetized sheet of material, the Srail patent fails to disclose or make obvious the recited retainer ring of claims 23-26 and fails to create the necessary motivation to modify a retainer ring as is contended by the Examiner. In fact, the frame-like structure of the Kenji patent teaches away from the recited flexible retainer ring and the combination of the Kenji patent with the Srail patent. Accordingly, claims 23-26 patentably distinguish from the cited references and are allowable.

Claims 30 and 34 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Farahmand patent as applied to claims 27-28 and 31-32 above, and further in view of the Srail patent.

Claims 30 and 34 are not made obvious under §103 in view of the Farahmand patent and the Srail patent. As is stated above, it is improper to use Farahmand in a 103 rejection in that it is non-analogous art. Further, even if the combination is considered proper, these references fail to disclose or make obvious the recited retainer ring. Claim 30 recites a retainer ring made from a flat sheet of flexible permanent magnetic material wherein the outer diameter is large enough to substantially cover the looped welding wire. Both the Farahmand and the Srail patents fail to disclose a retainer ring or even a packaging device. Only the improper use of hindsight consideration in view of appellants' specification could bridge the gap between the recited retainer ring and the cited references. The Farahmand patent discloses a therapeutic device for a pair of eyeglasses. The magnets are small magnets attached to eye glasses so that the magnetic flux is the musculature of the eyes. Column 2, lines 57-59. The Srail patent fails to overcome the many shortcomings of the Farahmand patent and, together, these references fail to disclose or make obvious the recited ring structure.

The same is true for the recited retainer ring of claim 34. In this respect, claim 34 recites a retainer ring for use in a drum of looped welding wire wherein the ring is a flat sheet of permanent magnet material with an outer periphery having a diameter large enough to substantially cover the looped welding wire. The Farahmand patent in view of the Srail patent fail to disclose or make obvious such a retainer ring structure. Again, only the improper use of hindsight reconstruction in view of appellants' specification could achieve this result.

Accordingly, appellants respectfully submit that claims 30 and 34 patentably distinguish from the cited references and are allowable.

SUMMARY

Appellants respectfully submit that claims 1-42 patentably distinguish from the cited references. The rejection of these claims was made in view of references that fail to disclose or make obvious the use of a flexible magnetic ring structure applied to the top of a welding wire coil in a welding wire package. Further, the cited references fail to disclose or make obvious a thin magnetic ring that is flexible. The primary references cited in these rejections are the Kenji patent and the Noburo patent. Both of these patents disclose rigid ring structures, not flexible ring structures. In fact, these Japanese patents disclose ring structures that teach away from the use of a flexible magnetic ring. In this respect, the Noburo patent discloses the use of large magnetic blocks positioned above the ring wherein a flexible ring structure would not properly support the magnetic blocks, which are used as weights, that are circumferentially spaced about the ring without producing a result contrary to the objective of the patent. The Kenji patent discloses a laminated frame-like structure that includes an inner cone that would prevent the recited flexibility. This inner cone would function like a reinforcing flange that are utilized to prevent flexing. The magnetic component of the Kenji ring is fully supported by this frame-like structure in Kenji's laminated construction. The ring structures of the Kenji patent and the Noburo patent fail to disclose or make obvious the recited rings of this application.

The Examiner's contention that all structures and materials are flexible is improper and goes against the meaning of this term in the art and against the

disclosure in appellants' specification. Based on the Examiner's position, no matter how rigid a device is intended to be, it is flexible. Appellants respectfully submit that this is an improper overly broad interpretation of the word "flexible" and that the rejection of these claims in view of this interpretation makes these rejections improper.

The Farahmand patent discloses the use of magnetic fields or flux as a therapeutic device for eyes. Accordingly, the Farahmand patent is non-analogous art and it is improper to use this patent in a 103 rejection. Further, the Farahmand patent fails to disclose or make obvious the use of magnetics for attracting objects or controlling objects and, therefore, even if it is considered, fails to overcome the shortcomings of the Noburo patent and the Kenji patent. With respect to the rejections under §102, the Farahmand patent does not disclose all recited features of the claimed subject matter either explicitly or impliedly.

In addition, as is argued above, the claims of this application do not stand or fall together. While there are common aspects in the claims, the claims also include separate patentable features.

It is respectfully submitted that the cited references fail to disclose the limitations of the claims on appeal and that any obviousness with respect to modifying the cited references as contemplated by the Examiner requires improper hindsight reconstruction based on Appellants' disclosure. Therefore, the claims on appeal patentably distinguish from the cited references relied upon by the Examiner in the final rejection. Accordingly, reversal of the Examiner's decision finally rejecting claims 1-42 and a finding of patentability with respect to these claims is in order and is respectfully requested.

Respectfully submitted,

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants : Christopher Hsu, et al.
Title : RETAINER RING FOR
WIRE PACKAGE
Serial No. : 10/629,044
Filed : July 30, 2003
Confirmation No. : 7391
Last Office Action : December 19, 2005
Examiner : William A. Rivera
Gr. Art Unit : 3654
Attorney Docket No. : LEEE 2 00301

CERTIFICATE OF MAILING

I hereby certify that this APPEAL BRIEF is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450, MAIL STOP APPEAL BRIEF - PATENTS on March 28, 2006.

By: 
Rita M. Sulic

CLAIMS APPENDIX

1. (Original) A welding wire package comprising a drum or box with a central axis, multiple layers of looped welding wire defining a stack wire to be paid out, said stack having an upper ring shaped surface with an outer cylindrical surface and an inner cylindrical surface defining a central bore concentric with said central axis and a flexible permanent magnet retainer ring on top of said upper ring shaped surface, said retainer ring allowing welding wire to be paid from under the ring upwardly from said central bore.

2. (Original) A welding wire package as defined in claim 1 wherein said flexible magnet ring has a thickness in the general range of 0.10-0.01 inches.

3. (Original) A welding wire package as defined in claim 2 wherein said flexible magnet ring has a magnetic strength of less than 1.0 Megagauss Oersteds.

4. (Original) A welding wire package as defined in claim 1 wherein said flexible magnet ring has a magnetic strength of less than 1.0 Megagauss Oersteds.

5. (Previously Presented) A welding wire package as defined in claim 4 wherein said flexible magnet ring is annular with an inner generally circular edge having a diameter greater than the diameter of said inner cylindrical surface of said wire stack.

6. (Previously Presented) A welding wire package as defined in claim 3 wherein said flexible magnet ring is annular with an inner generally circular edge having a diameter greater than the diameter of said inner cylindrical surface of said wire stack.

7. (Previously Presented) A welding wire package as defined in claim 2 wherein said flexible magnet ring is annular with an inner generally circular edge having a diameter greater than the diameter of said inner cylindrical surface of said wire stack.

8. (Previously Presented) A welding wire package as defined in claim 1 wherein said flexible magnet ring is annular with an inner generally circular edge

having a diameter greater than the diameter of said inner cylindrical surface of said wire stack.

9. (Original) A welding wire package as defined in claim 8 including a cylindrical core in said bore of said welding wire stack.

10. (Original) A welding wire package as defined in claim 4 including a cylindrical core in said bore of said welding wire stack.

11. (Original) A welding wire package as defined in claim 2 including a cylindrical core in said bore of said welding wire stack.

12. (Original) A welding wire package as defined in claim 1 including a cylindrical core in said bore of said welding wire stack.

13. (Original) A welding wire package as defined in claim 12 wherein said flexible magnet ring has an outer periphery generally matching said outer cylindrical surface of said wire stack.

14. (Original) A welding wire package as defined in claim 13 wherein said outer periphery is generally circular.

15. (Original) A welding wire package as defined in claim 8 wherein said flexible magnet ring has an outer periphery generally matching said outer cylindrical surface of said wire stack.

16. (Original) A welding wire package as defined in claim 15 wherein said outer periphery is generally circular.

17. (Original) A welding wire package as defined in claim 4 wherein said flexible magnet ring has an outer periphery generally matching said outer cylindrical surface of said wire stack.

18. (Original) A welding wire package as defined in claim 17 wherein said outer periphery is generally circular.

19. (Original) A welding wire package as defined in claim 2 wherein said flexible magnet ring has an outer periphery generally matching said outer cylindrical surface of said wire stack.

20. (Original) A welding wire package as defined in claim 19 wherein said outer periphery is generally circular.

21. (Original) A welding wire package as defined in claim 1 wherein said flexible magnet ring has an outer periphery generally matching said outer cylindrical surface of said wire stack.

22. (Original) A welding wire package as defined in claim 21 wherein said outer periphery is generally circular.

23. (Original) A welding wire package as defined in claim 4 wherein said flexible magnet ring includes ferrite particles in a flexible non-magnetic binder.

24. (Original) A welding wire package as defined in claim 3 wherein said flexible magnet ring includes ferrite particles in a flexible non-magnetic binder.

25. (Original) A welding wire package as defined in claim 2 wherein said flexible magnet ring includes ferrite particles in a flexible non-magnetic binder.

26. (Original) A welding wire package as defined in claim 1 wherein said flexible magnet ring includes ferrite particles in a flexible non-magnetic binder.

27. (Previously presented) A retainer ring for use in a drum of looped welding wire said ring being a flat sheet of flexible permanent magnet material with an outer periphery and an inner periphery said outer periphery having a diameter large enough to substantially cover the looped welding wire.

28. (Original) A retainer ring as defined in claim 27 wherein said ring has a thickness in the general range of 0.10-0.01 inches.

29. (Original) A retainer ring as defined in claim 27 wherein said ring has a magnetic strength of less than 1.0 Megagauss Oersteds.

30. (Original) A retainer ring as defined in claim 27 wherein said ring includes ferrite particles in a flexible non-magnetic binder.

31. (Previously presented) A retainer ring for use in a drum of looped welding wire, said ring being a flat sheet of permanent magnet material with an outer periphery and an inner periphery said outer periphery having a diameter large enough to substantially cover the looped welding wire.

32. (Original) A retainer ring as defined in claim 31 wherein said ring has a thickness in the general range of 0.10-0.01 inches.

33. (Original) A retainer ring as defined in claim 31 wherein said ring has a magnetic strength of less than 1.0 Megagauss Oersteds.

34. (Original) A retainer ring as defined in claim 31 wherein said ring is flexible and includes ferrite particles in a flexible non-magnetic binder.

35. (Previously Presented) A method of controlling the payout of a welding wire in a package at a welding operation, said package comprising a stack of multiple layers of looped welding wire having an annular top and an oppositely facing bottom, said method including:

(a) applying a flexible magnetic retainer ring on the top of the wire stack such that said ring applies a magnetic field to the top of said stack; and,

(b) pulling said wire from said stack for feeding to said welding operation.

36. (Previously Presented) A method as defined in claim 35 wherein said retainer ring is a flexible permanent magnet retainer ring made from ferrite particles in a non-magnetic binder.

37. (Original) A method as defined in claim 35 wherein said applying act is accomplished by an electromagnet.

38. (Previously presented) A welding wire package comprising a drum or box with a central axis, multiple layers of looped welding wire defining a stack wire to be paid out, said stack having an upper ring shaped surface with an outer cylindrical surface and an inner cylindrical surface defining a central bore concentric with said central axis and a retainer ring having a substantially flexible retainer ring body on top of said upper ring shaped surface, said retainer ring allowing welding wire to be paid from under the ring upwardly from said stack.

39. (Previously presented) A welding wire package as defined in claim 38 wherein said flexible ring body has a thickness in the general range of 0.10-0.01 inches and is a polymer.

40. (Previously presented) A welding wire package comprising a drum or box with a central axis, multiple layers of looped welding wire defining a stack wire to be paid out, said stack having an upper ring shaped surface with an outer cylindrical surface and an inner cylindrical surface defining a central bore concentric with said central axis and a flexible retainer ring on top of said upper ring shaped surface, said retainer ring allowing welding wire to be paid from under the ring upwardly from said stack, said flexible ring has a thickness in the general range of 0.10-0.01 inches and is a polymer, and said flexible ring is a permanent magnet sheet.

41. (Previously presented) A welding wire package as defined in claim 38 wherein said flexible ring body has a thickness in the general range of 0.10-0.01 inches and is rubber.

42. (Previously Presented) A welding wire package comprising a drum or box with a central axis, multiple layers of looped welding wire defining a stack wire to be paid out, said stack having an upper ring shaped surface with an outer cylindrical surface and an inner cylindrical surface defining a central bore concentric with said central axis and a flexible retainer ring on top of said upper ring shaped surface, said retainer ring allowing welding wire to be paid from under the ring upwardly from said stack, said flexible ring has a thickness in the general range of 0.10-0.01 inches and is rubber, and said flexible ring is a permanent magnet sheet comprised of ferrite particles in a non-magnetic binder.

EVIDENCE APPENDIX

Patent Abstracts of Japan

(1)

PUBLICATION NUMBER : 04133973
PUBLICATION DATE : 07-05-92

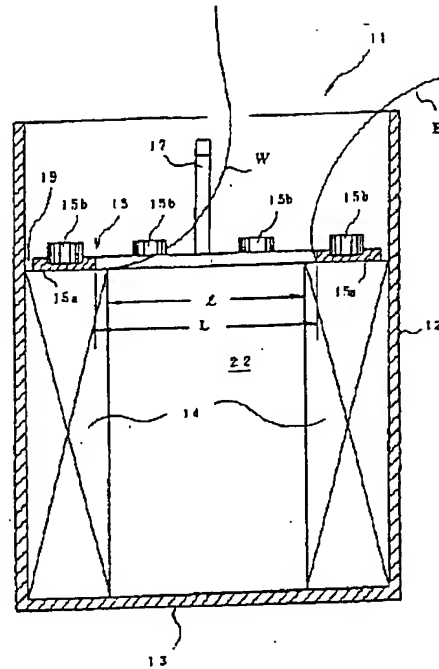
APPLICATION DATE : 21-09-90
APPLICATION NUMBER : 02252849

APPLICANT : NIPPON STEEL WELD PROD & ENG
CO LTD;

INVENTOR : SAEKI NOBURO;

INT.CL. : B65H 59/06

TITLE : PAIL PACK FOR HOUSING WELDING
WIRE



ABSTRACT : PURPOSE: To draw a wire smoothly from a pail pack without tangling and twining by providing a presser member with magnet members magnetically attracting wire loops and with a wire drawing hole having a diameter equal to or larger than the inner diameter of a loop lamination body.

CONSTITUTION: A presser member 15 for a wire cable consists of a synthetic resin-made annular plate-shaped presser member 15a and plural permanent magnets-made magnet members 15b, which members 15a 15b press wire loops of upper end part of a loop lamination body by its self-weight and lie at prescribed spaces on the presser member main body 15a, respectively. The presser member main body 15a is provided with a wire drawing hole whose diameter L is equal to or larger than the inner diameter I ($L \geq I$) of the loop lamination body, so that a drawn wire W cannot be prevented by the inner periphery brim of the wire drawing hole.

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Patent Abstracts of Japan

(2)

PUBLICATION NUMBER : 04112169
PUBLICATION DATE : 14-04-92

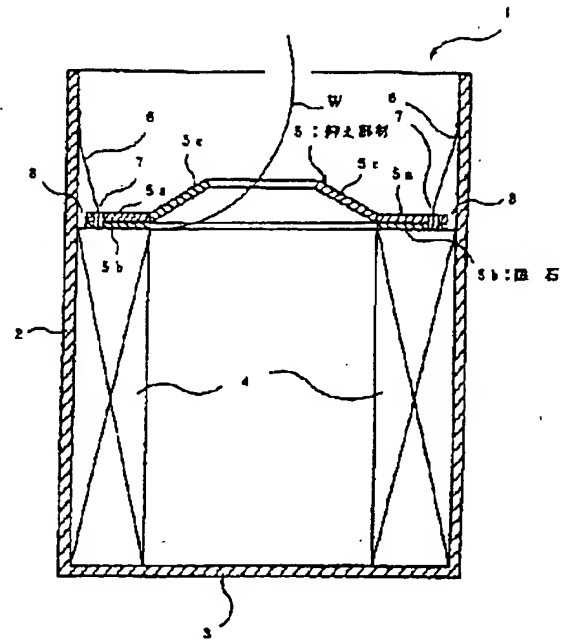
APPLICATION DATE : 29-08-90
APPLICATION NUMBER : 02226887

APPLICANT : NIPPON STEEL WELD PROD & ENG
CO LTD;

INVENTOR : SHIYAMA KENJI;

INT.CL. : B65H 59/06 B23K 9/12 B65H 49/08

TITLE : PRESSING MEMBER FOR WELDING
WIRE



ABSTRACT : PURPOSE: To smoothly take out a wire free from interwinement and entanglement in taking out a wire from a bail pack by installing a magnet member for attracting a loop and a regulating member which projects in an eaves form over the vacant part of a loop lamination body.

CONSTITUTION: A pressing member 5 is placed at the upper edge of a loop lamination body 4 and presses a wire loop at the upper edge part of the loop lamination body 4, lowering together wire the upper edge of the loop lamination body 4, accompanied with the taking-out of a wire W. Further, the succeeding loop is prevented from being pulled up irregularly by being dragged by the wire W which is pulled up through the attraction of the wire loop made of the ferromagnetic body by a magnet member 5b. Even if pulled out, the random movement of the wire W is regulated by the shielding action of a regulating member 5c which projects in an eaves form.

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